



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Elliott *et al.*
Serial No: 09/736,073
Filed: December 13, 2000
For: SCANNING PLASMA REACTOR

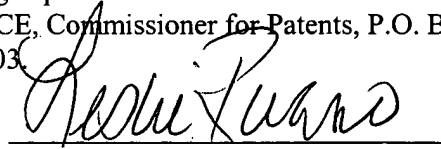
Paper No:
Group: 1763
Examiner: Crowell, Anna M.
Docket No: UV-102J

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Leslie Ruano

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PRELIMINARY REPLY

The applicant appreciates the Examiner's thorough examination of the application and requests reexamination and reconsideration of the application in view of the following remarks.

In the Office Action dated March 7, 2003, the Examiner states that the proposed substitute sheet of drawing filed on January 2, 2003 has been approved. Accordingly, the applicant encloses herewith a corrected drawing sheet of Figure 2 in accordance with the accepted proposed substitute sheet of drawing.

In the Office Action dated March 7, 2003, the Examiner rejects claims 1, 7-13, 17-20 and 24-28 under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 6,090,458 to Murakami.

The applicant's invention is directed to a scanning plasma reactor for exciting or

ionizing reactant gases with UV radiation at a substrate surface comprising a beam forming module to transform a UV radiation source raw output into a rectangular beam, a gas injection module to deliver at least one reactant gas to the substrate surface, a reaction chamber with a UV window through which said beam forming module projects said rectangular beam, a vacuum chuck for holding a substrate; and a gas exhaust module inside said chamber to remove reaction by-products and unreacted reactant gas from the substrate surface, wherein said gas injection module and said gas exhaust module are in close proximity to said rectangular beam, and wherein said rectangular beam, said gas injection module and said gas exhaust module are movable relative to the substrate surface.

Specifically, Murakami fails to disclose a gas exhaust module inside the chamber and that the gas injection module and said gas exhaust module are in close proximity to said rectangular beam as claimed by the applicant in claim 1.

Murakami is directed to a method and apparatus for film formation by chemical vapor deposition. Murakami discloses a reactive gas 101 supplied by gas source 100 onto substrate 104 into chamber 103 through gas inlet port 102. Laser beam 106 is emitted from a laser oscillator 105 through glass window 111. Exhaust gas is discharged after being treated by exhaust gas treatment section 117. See Col. 3, lines 27-52 and Figs. 3 and 10 of Murakami. Nowhere does Murakami disclose, teach or suggest that the gas exhaust module is inside the chamber as claimed by the applicant.

The Examiner states that Figures 3 and 10 of Murakami show that the exhaust port is located inside the chamber, and that the exhaust port is part of exhaust treatment section 117. However, the applicant claims “a gas exhaust module inside said chamber”. Figures 2 and 6-12 of the subject application clearly show that the gas exhaust module is located

inside the chamber. The entire exhaust treatment section 117 of Murakami is located outside of the chamber, and the gas exhaust port is merely an opening formed in a wall of chamber 103. The gas exhaust port is not located inside the chamber. No part of the exhaust treatment section 117, including the gas exhaust port, is actually located inside the chamber as claimed by the applicant. Indeed, Figures 3, 5 and 9-11 of Murakami clearly show that neither the exhaust gas treatment section nor the gas exhaust port of Murakami is located inside of the chamber. Accordingly, Murakami fails to disclose a feature of the claimed invention; that the gas exhaust module is located inside the chamber.

As Murakami fails to disclose each and every element of the claimed invention, independent claims 1 and 28, and dependent claims 7-13, 17-20 and 24-27 are patentable over Murakami.

The Examiner rejects claims 2-6 under 35 U.S.C. §103(a) as being unpatentable over Murakami in view of U.S. Patent No. 5,814,156 to Elliot *et al.* and U.S. Patent No. 4,264,330 to Schmidt *et al.* However, independent claim 1 is patentable for the above reasons, and dependent claims 2-6 are patentable over Murakami for at least those reasons. Accordingly, claims 2-6 are patentable over the combination of references.

The Examiner rejects claim 14 under 35 U.S.C. §103(a) as being unpatentable over Murakami in view of U.S. Patent No. 5,002,631 to Giapis *et al.* However, independent claim 1 is patentable for the above reasons, and dependent claim 14 is patentable over Murakami for at least those reasons. Accordingly, claim 14 is patentable over the combination of references.

The Examiner rejects claim 23 under 35 U.S.C. §103(a) as being unpatentable over Murakami in view of U.S. Patent No. 6,374,770 to Lee *et al.* However, independent claim

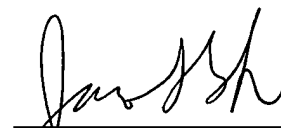
1 is patentable for the above reasons, and dependent claim 23 is patentable over Murakami for at least those reasons. Accordingly, claim 23 is patentable over the combination of references.

The Examiner rejects claim 29 under 35 U.S.C. §103(a) as being unpatentable over Murakami in view of U.S. Patent No. 6,136,096 to Morishige. However, independent claim 29 also includes the feature that the gas exhaust module is inside the chamber, and is patentable over Murakami for at least the above reasons. Accordingly, claim 29 is patentable over the combination of references.

Each of the Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,



Jason D. Shanske
Reg. No. 43,915



Joseph Iandiorio
Kirk Teska
Jason D. Shanske
Thomas E. Thompson, Jr.
Roy J. Coleman
R. Stephen Rosenholm
David W. Poirier

IANDIORIO & TESKA

INTELLECTUAL PROPERTY LAW ATTORNEYS

260 BEAR HILL ROAD
WALTHAM, MASSACHUSETTS 02451-1018

Tel: (781) 890-5678
Fax: (781) 890-1150
e-mail: admin@iandiorio.com
web: www.iandiorio.com

September 8, 2003

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SUBJECT:	Applicant:	Elliott et al.
	Serial No:	09/736,073
	Filed:	December 13, 2000
	For:	SCANNING PLASMA REACTOR
	Examiner:	Crowell, Anna M.
	Group:	1763
	Docket No:	UV-102J

Dear Sir:

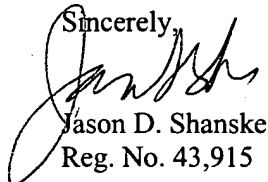
Enclosed is a Request for Continued Examination (RCE) Transmittal, a check for \$375.00 for the filing fee, a response, and an Extension of Time Within the Third Month along with a check in the amount of \$465.00 for the extension filing fee.

If for any reason this Request for Continued Examination (RCE) Transmittal is found to be INCOMPLETE, or if at any time it appears that a TELEPHONE CONFERENCE with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, (781) 890-5678.

If any payment during prosecution is found to be incorrect, please charge any deficiency or credit any overpayment to my Deposit Account No. 09-0002. A copy of this letter is enclosed for use by the Finance Branch in the event that it is necessary to make any charge or credit to my deposit account.

Kindly acknowledge receipt of the foregoing by returning the enclosed self-addressed postcard.

Sincerely,


Jason D. Shanske
Reg. No. 43,915

JDS:lr
Enclosures

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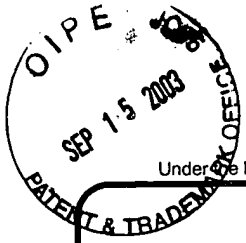
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Leslie Ruano



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PTO/SB/30 (05-03)
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REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL

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Alexandria, VA 22313-1450

Application Number	09/736,073
Filing Date	December 13, 2000
First Named Inventor	Elliott et al.
Art Unit	1763
Examiner Name	Crowell, Anna M.
Attorney Docket Number	UV-102J

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 CFR 1.114**

Note: If the RCE is proper, any previously filed unentered and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such

- a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
- i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ii. ☐ Other _____

09/16/2003 MGBREM1 00000049 09736073

b. ☒ Enclosed

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i. ☒ Amendment/Reply

iii. ☐

Information Disclosure Statement (IDS)

ii. ☐ Affidavit(s)/Declaration(s)

iv. ☒ Other

Extension of Time Within Third Month

2. **Miscellaneous**

- a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
- b. ☐ Other _____

3. **Fees**

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

- a. ☒ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 09-0002
- i. ☒ RCE fee required under 37 CFR 1.17(e) 09/16/2003 MGBREM1 00000049 09736073
- ii. ☒ Extension of time fee (37 CFR 1.136 and 1.17) 01 FC:2801
- iii. ☐ Other _____ 375.00 OP
- b. ☒ Check in the amount of \$ 375 and \$ 465 enclosed
- c. ☐ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print / Type)	Jason D. Shanske	Registration No. (Attorney / Agent)	43,915
Signature	<i>Jason D. Shanske</i>	Date	9/8/03

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Name (Print / Type)	Leslie Ruano	Date	9/8/03
Signature	<i>Leslie Ruano</i>		

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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